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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Tukaram K. Hatwar

METHOD OF MAKING AN OLED DEVICE

Serial No. 10/751,389

Filed 05 January 2004

Group Art Unit: 1734

Examiner: Sing P. Chan

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APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37 and 35 U.S.C. 134

Sir:

Appellant hereby appeals to the Board of Patent Appeals and Interferences from the Examiner's Final Rejection of claims 1, 2 and 4 which was contained in the Office Action mailed November 21, 2005. A timely Notice of Appeal was filed on February 21, 2006. This appeal brief is being filed in accordance with the provisions of 37 C.F.R. § 41.37. The Commissioner is authorized to charge the fee of \$500.00 under Rule 17(c) for filing of this brief to Deposit Account 05-0225. If this fee is deemed to be insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to Deposit account 05-0225. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136(a) and authorizes payment of any such extensions fees to Deposit Account No. 05-0225.

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1. Real Party in Interest

The real party in interest in this application is Eastman Kodak Company, as evidenced by an assignment filed in the United States Patent and Trademark Office.

2. Related Appeals and Interferences

There are no related appeals or interferences known to appellant, the appellant's legal representative, or the assignee which are related to, will directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

3. Status of the Claims

Pending claims: 1, 2 and 4

Rejected claims: 1, 2 and 4

Appealed claims: 1, 2 and 4

Appendix I provides a clean, double spaced copy of the claims on appeal.

4. Status of Amendments

An amendment was filed after final rejection, and an Advisory Action dated February 2, 2006 indicates that this amendment has been entered into the record for purposes of appeal.

5. Background of Invention and Summary of Claimed Subject Matter

The present invention relates to white OLED devices with color filter arrays, and a manufacturing method for such devices. An organic light-emitting diode device, also called an OLED device, commonly includes a substrate, an anode, a hole-transporting layer made of an organic compound, an organic luminescent layer with suitable dopants, an organic electron-transporting layer, and a cathode. OLED devices are attractive because of their low driving voltage, high luminance, wide-angle viewing, and capability for full-color flat emission displays. Tang, *et al.* described this multilayer OLED device in their U.S. Patents 4,769,292 and 4,885,211.¹

¹ Specification at page 1, lines 14-23.

Full-color OLED devices can require the deposition of three different colored emitting layers in a very precise pattern. Because this can be a challenging process that adds to cycle time in high-volume manufacturing, there has been increasing interest in filtered white-emitting OLED devices.²

A white-emitting electroluminescent (EL) layer can be used to form a multicolor device. Each pixel is coupled with a color filter element as part of a color filter array (CFA) to achieve a pixilated multicolor display. The organic EL layer is common to all pixels and the final color as perceived by the viewer is dictated by that pixel's corresponding color filter element. Therefore a multicolor or RGB device can be produced without requiring any patterning of the organic EL layers. An example of a white CFA top-emitting device is shown in U.S. Patent 6,392,340.³

White light-producing OLED devices should be bright, efficient, and generally have Commission International d'Eclairage (CIE) chromaticity coordinates of about (0.33, 0.33). In any event, in accordance with this disclosure, white light is that light which is perceived by a user as having a white color. The following patents and publications disclose the preparation of organic OLED devices capable of producing white light, comprising a hole-transporting layer and an organic luminescent layer, and interposed between a pair of electrodes.⁴

White light-producing OLED devices have been reported before by J. Shi (U.S. Patent, 5,683,823) wherein the luminescent layer includes red and blue light-emitting materials uniformly dispersed in a host emitting material. Sato *et al.* in JP 07-142169 discloses an OLED device, capable of emitting white light, made by forming a blue light-emitting layer next to the hole-transporting layer and followed by a green light-emitting layer having a region containing a red fluorescent layer.⁵

Kido *et al.*, in *Science*, Vol. 267, p. 1332 (1995) and in *Applied Physics Letters* Vol. 64, p. 815 (1994), report a white light-producing OLED device. In this device, three emitter layers with different carrier transport properties, each emitting blue, green,

² Specification at page 1, lines 24-27.

³ Specification at page 1, line 28 to page 2, line 4.

⁴ Specification at page 2, lines 5-11.

⁵ Specification at page 2, lines 12-18.

or red light, are used to generate white light. Littman *et al.* in U.S. Patent 5,405,709 disclose another white emitting device, which is capable of emitting white light in response to hole-electron recombination, and comprises a fluorescent in a visible light range from bluish green to red. Deshpande *et al.*, in *Applied Physics Letters*, Vol. 75, p. 888 (1999), published a white OLED device using red, blue, and green luminescent layers separated by a hole-blocking layer.⁶

There is a need for efficient and low-cost manufacturing methods for white-emitting OLED devices, and it was an object of the present invention to provide an efficient manufacturing process for white-emitting OLED devices. This object has been achieved by a method of making a color OLED device comprising:

- a) forming a color filter array over a first surface of a substrate;
- b) forming an anode over the first or a second surface of the substrate and a hole-transporting layer over the anode;
- c) moving one or more coated donor elements into a transfer position relative to the hole-transporting layer and transferring emissive material from the donor elements onto the hole-transporting layer to form a one or more unpatterned light-emitting layer(s) which are capable of emitting white light; and
- d) forming a cathode over the one or more unpatterned light-emitting layer(s).⁷

It is an advantage of this invention that an OLED device can be manufactured by the use of a donor element without the need of exact positioning required for donor element transfer with some RGB systems, thus increasing efficiency and reducing cycle time and cost in manufacturing. It is a further advantage that a donor element can be analyzed before being used for transfer, thus preventing formation of a substandard OLED device. It is a further advantage of this invention that it can be used with light-emitting materials which cannot readily undergo evaporative transfer, e.g. polymeric materials for a white OLED device. It is a further advantage that this invention can be

⁶ Specification at page 2, lines 19-27.

⁷ See claim 1.

used in the manufacture of OLED devices that include RGBW arrays. It is a further advantage of this invention that an OLED device can use a light-emitting layer with a larger tolerance in concentration of the layer components.⁸

6. Grounds of Rejection to be Reviewed on Appeal

The following issues are presented for review by the Board of Patent Appeals and Interferences:

1. The rejection of claims 1 and 2 under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Gaudiana *et al.* (US 6,624,839) and Jackson *et al.* (US 6,720,572).

2. The rejection of claim 4 under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Kunimoto *et al.* (US 6,258,954) and Jackson *et al.* (US 6,720,572).

A rejection under the second paragraph of 35 USC 112 has been obviated by adopting the examiner's suggestion to amend claim 4 to recite white light.

7. Arguments

A. Claims 1 and 2 would not have been obvious under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Gaudiana et al. (US 6,624,839) and Jackson et al. (US 6,720,572).

i. The examiner's stated case.

The examiner alleges that Wolk discloses a method of forming OLEDs that includes providing an anode on a substrate, a hole transport layer on the anode, a white light emitting polymer layer on the hole transport layer and a cathode on the emitter layer. He states that "the light emitting layer and hole transporting layer are applied by transferring the material from a transfer donor element by coating the donor element with the material (col. 5, lines 47-50) and the element is brought into intimate contact with receptor or substrate, a radiation source is used to heat the layer in an imagewise fashion to perform the imagewise transfer of the layer (col. 7, lines 18-27)."⁹ He

⁸ See specification at page 3, lines 16-27.

⁹ Official Action dated November 21, 2005, at page 3, lines 17-22.

admits that Wolk is silent as to forming a color filter on the other side of the substrate. He urges, however, that Gaudiana discloses that color filter arrays are either deposited onto the light-receiving surface of the substrates or are deposited onto the opposite light-emitting surface of the substrate.

The examiner also admits that Wolk is silent as to unpatterned light emitting layer(s), but argues that “forming the light-emitting layers in either patterned or unpatterned [sic] is well known and conventional as shown for example by Jackson *et al.* Jackson *et al.* discloses a method of forming an organic light emitter. The method includes forming the light emitting pixels or light emitting layer(s) as either patterned or unpatterned pixels (col. 5, lines 16-27).”¹⁰

With respect to claim 2, the examiner urges that “Wolk discloses the material on the transfer donor element can be patterned via selective thermal transfer from the donor to a receptor, which forms any pattern such as patches of transferable material.”¹¹

ii. The combination of references fails to suggest a method of making an OLED in which a donor element transfers an unpatterned emissive layer as recited in claim 1.

Claim 1 recites “moving one or more coated donor elements into a transfer position relative to the hole-transporting layer and transferring emissive material from the donor elements onto the hole-transporting layer to form one or more unpatterned light-emitting layer(s) which are capable of emitting white light.” There is no counterpart to this in the cited documents, and *unpatterned transfer* of an emissive layer from a donor element would not have been suggested by the combination of Wolk, Guadiana *et al.* and Jackson *et al.*

a. Wolk only teaches imagewise transfer, and even the addition of Jackson *et al.* to Wolk would not have suggested transfer of an unpatterned emissive layer as presently claimed.

The Examiner admits that Wolk only teaches imagewise transfer of a layer to form a pattern. He cites Jackson *et al.* as suggesting “forming the light emitting pixels

¹⁰ Official Action dated November 21, 2005, at page 4, lines 10-14.

¹¹ Official Action dated November 21, 2005, at page 4, lines 19-21.

or light emitting layer(s) as either patterned or unpatterned pixels.”¹² However, the unpatterned layer to which Jackson *et al.* refers would not have suggested transfer of an unpatterned white light emitting layer that is used in conjunction with a color filter array in an OLED device. Jackson *et al.* describes that “light emitting device 10 is useful as *a pixel* in a display.”¹³ Each of the pixels in Jackson *et al.* is driven by its own transistor, and thus Jackson *et al.* describe *one pixel* of what is known in the art as an active-matrix display. All of the description in Jackson *et al.* relates to formation of a *single pixel*, and therefore when Jackson *et al.* refer to unpatterned layers, they are not referring to a light-emitting layer that is used in combination with a color filter array to produce a total display, as is presently claimed.

The point of reference for “patterned and unpatterned layers” in Jackson *et al.* is a single pixel. Thus, Jackson *et al.* describe that

Both *patterned and unpatterned pixels* can be fabricated. In the patterned devices, gate electrodes, gate dielectric layer, and source contacts can be patterned by photolithography and lift-off; cathode contacts can be deposited through a shadow mask that is aligned with respect to the source contacts using an optical microscope. In the *unpatterned pixels*, only the source contacts and the cathode contacts are patterned. All other layers are unpatterned. In addition to bottom-emitting pixels, top-emitting pixels can also be fabricated, using a low-resistivity silicon wafer as the substrate and gate electrode, thermally grown silicon dioxide as the gate dielectric layer, and semitransparent cathode contacts prepared from 100 Å thick aluminum films.¹⁴

Neither Wolk nor the secondary references ever suggest that donor transfer can be used to transfer an unpatterned layer that could be used in conjunction with a color filter array to produce a device that comprises multiple pixels. Typically donor elements have been used in making patterned OLED layers in multiple pixel devices, as in Wolk. Appellant is the first to recognize that thermal transfer can be used to transfer emissive material from a donor to form one or more unpatterned light-emitting layer(s).

¹² Official Action dated November 21, 2005, at page 4, lines 13-14.

¹³ U.S. 6,720,572, column 3, lines 49-50.

¹⁴ Column 5, lines 16-28, emphasis added.

Wolk does discuss the use of donors but all of his emissive layers are patterned, and Jackson *et al.* describe ***only single unpatterned pixels***, and not the combination of an ***unpatterned emissive layer*** in combination with a color filter array as in the present invention.

Wolk is representative of well known teachings in the art that donor elements are effective in forming ***patterned*** emissive layers. Clearly there is no motivation to be found in the combination of Wolk and Jackson *et al.* for the subject matter of claim 1. Application of the teaching in Jackson *et al.* to that which is disclosed in Wolk would not lead to a process as presently claimed, and no *prima facie* case of obviousness exists.

b. In particular, Wolk does not disclose or suggest forming an unpatterned light-emitting layer that is capable of emitting white light.

In an Advisory Action dated February 2, 2006, the examiner urges that:

In response to applicant's argument of Wolk does not produce white light, Wolk does recite sequentially depositing red, green and blue emitters, which correspond [sic: corresponds] to white light emitters.

Wolk sequentially deposits red, green and blue emitters in different areas of the receptor, thereby to form a device with red, green and blue pixels. Red, green and blue emitters deposited at different pixel locations produce ***full color devices*** and do not "correspond to white light emitters." Thus, Wolk discloses that "another method for forming a ***full color device*** includes depositing columns of hole transport layer material and then sequentially depositing red, green, and blue electron transport layer/emitter multicomponent transfer units".¹⁵ No *prima facie* case of obviousness exists with respect to forming an unpatterned light-emitting layer that is capable of emitting white light.

¹⁵ U.S. 6,194,119, at column 18, lines 13-17

c. The proposed modification of Wolk based on Jackson et al. impermissibly changes the principle of operation of Wolk.

If a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. MPEP 2143, citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In *Ratti*, the claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.

Similarly, here the device of Wolk teaches imagewise transfer from a donor element in order to produce a device in which emissive materials that emit specified different colors, *e.g.*, red, green and blue, are deposited at different positions. The addition of an unpatterned white light emitting layer to Wolk would change entirely the principle of operation of Wolk, and thus is impermissible under MPEP 2143.

d. The addition of Gaudiana et al. does not overcome the failure of Wolk and Jackson et al. to suggest transfer of an unpatterned emissive layer as presently claimed.

Guadiana *et al.* is relied upon only as teaching that color filter arrays are either deposited onto the light-receiving surface of the substrates or are deposited onto the opposite light-emitting surface of the substrate. It does not overcome the failure of the combination of Wolk and Jackson *et al.* to suggest donor transfer of an unpatterned emissive layer to be used in combination with a color filter array.

e. Motivation to combine the references as proposed is not found either explicitly or implicitly in the cited references.

The examiner urges that applicant argues against the references individually, and that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. By the same token, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). The Federal Circuit has emphasized that the level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). Here the necessary teaching, suggestion, or motivation is missing. Wolk, Jackson *et al.* and Gaudiana *et al.*, taken alone or in combination, fail to suggest a method of making an OLED in which a donor element transfers an unpatterned emissive layer as recited in claim 1, for reasons detailed above.

f. The present invention provides numerous advantages not suggested by the art of record.

Appellant fails to find any motivation for the subject matter of claim 1 in any of the cited references. Furthermore, claim 1 sets forth a method which provides numerous advantages not suggested by the combination of references. As set forth on page 3 of the specification, it permits the use of a donor element without the need for exacting positioning, thereby increasing efficiency and reducing cycle time and cost of manufacture. It is a further advantage that a donor element can be analyzed before being used for transfer, thus preventing formation of a substandard OLED device. It is a another advantage that light-emitting materials which cannot readily undergo evaporative transfer, *e.g.* polymeric materials for a white OLED device, can be used in OLED devices using the present claimed process. Furthermore, an OLED device can

use a light-emitting layer with a larger tolerance in concentration of the layer components.

iii. Claim 2 is separately patentable over claim 1.

With respect to claim 2, the examiner urges that “Wolk discloses the material on the transfer donor element can be patterned via selective thermal transfer from the donor to a receptor, which forms any pattern such as patches of transferable material.”¹⁶ This evidences a misunderstanding of what claim 2 recites.

Claim 2 recites that the donor element is a flexible web having a series of coated patches of transferable emissive material which are sequentially moved to the transfer position and heated by radiation to cause material transfer. In this embodiment, each of the coated patches is used in the process of forming an unpatterned white light emitting layer. A flexible web has a series of coated patches of transferable emissive material, each at least as large as the substrate. Each patch can be sequentially moved to the transfer position with the OLED substrate and heated by radiation to cause material transfer. Two or more layers of emissive material can be sequentially transferred to OLED substrate, and the different patches can include different emissive materials. For example, a first coated patch of transferable emissive material can include a light-emitting yellow dopant, while a second coated patch of transferable emissive material can include a light-emitting blue dopant. Together, the two layers produce a light-emitting OLED device which is capable of emitting white light.¹⁷

With respect to claim 2, Wolk discloses patternwise transfer from a donor to a receptor. In this process, portions of the layer coated on a donor element are selectively transferred to the device:

Materials can be patterned onto substrates by *selective thermal transfer of the materials from one or more thermal transfer elements*. A thermal transfer element can be heated by application of directed heat on a selected portion of the thermal transfer element...In

¹⁶ Official Action dated November 21, 2005 at page 4, lines 19-21.

¹⁷ Specification at page 26, lines 10-22.

many instances, thermal transfer using light from, for example, a lamp or laser, is advantageous because of the accuracy and precision that can often be achieved. The size and shape of the transferred pattern (e.g., a line, circle, square, or other shape) can be controlled by, for example, selecting the size of the light beam, the exposure pattern of the light beam, the duration of directed beam contact with the thermal transfer element, and the materials of the thermal transfer element.¹⁸

The examiner is correct that “selective thermal transfer from the donor to a receptor [can form] any pattern such as patches of transferable material.” However, claim 2 does not recite patches of material on the receptor as a result of selective thermal transfer. Claim 2 relates to a series of coated patches *formed on the donor element*, and not to a series of patches *formed on the receptor* as may be the case following Wolk’s selective transfer and is what the examiner alleges. The coated patches of claim 2 are used in the unpatterned transfer that is described in claim 1.

Wolk discloses selective transfer from a donor element that has a contiguous layer of material that is selectively transferred to a receptor in imagewise fashion. Claim 2 relates to nonselective (“unpatterned”) transfer from a donor element that has discontinuous patches of material that is nonselectively transferred to a receptor to produce an unpatterned light-emitting layer. No *prima facie* case of obviousness exists.

B. Claim 4 would not have been obvious under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Kunimoto et al. (US 6,258,954) and Jackson et al. (US 6,720,572).

i. The examiner’s stated case

The examiner alleges that Wolk discloses a method of forming a donor element. He admits that Wolk is silent as to inspecting the donor element prior to transfer and that the light emitting layer is unpatterned. He cites Jackson as teaching a method of forming an organic light emitter that includes forming the light emitting pixels or light emitting layer(s) as either patterned or unpatterned pixels. Kunimoto is urged to suggest the inspection of coating material on a coated substrate.

¹⁸ U.S. 6,194,119 at column 4, lines 29-45 (emphasis added).

- ii. The combination of references fails to suggest a method of making an OLED in which a donor element is inspected prior to using it to transfer an unpatterned emissive layer as claimed in claim 4.

Claim 4 is directed to a method of manufacturing an OLED device which emits white light. It requires an inspection step prior to transfer of unpatterned layer(s) from a flexible donor support to an OLED device that produces white light. Claim 4 moves the coated donor support into a transfer position with the OLED device and forms an unpatterned light-emitting layer(s). The same arguments applied to claim 1 with respect to Wolk and Jackson *et al.* also apply to claim 4 since none of these references form unpatterned layer(s) from a coated donor support.

Kunimoto *et al.* disclose fluorescent maleimides. Various uses are disclosed for these compounds. In one embodiment, the compounds are used to form the light-emitting layer in an EL device. In another embodiment, the compounds are used as UV fluorescent materials for void detection, *e.g.*, for so-called OEM (original equipment manufacturer) applications such as automotive electrocoats and subsequent layers, for example primer surfaces, as well as industrial applications in general. Once the coating compositions are cured, the corresponding coatings can be inspected with the use of a UV-lamp. Defects or voids as a result of misapplication or artificially applied defects can be easily detected, because the used fluorescent compounds exhibit intense fluorescence only at the voids (so-called "edge fluorescence"). This allows the "instant possibility of repair."¹⁹

There is no suggestion of using void detection/inspection of parts in the EL embodiment. It is significant that Kunimoto *et al.* uses their compounds both as the light emitting layer in an EL device and for void detection in processes in which layers such as automobile paints are coated, yet clearly does not invoke the inspection capability of the compounds when they are used in the EL embodiment. This is clear evidence that it would not have been obvious to inspect layers in an EL device based on Kunimoto *et al.*

¹⁹ U.S. 6,258,954 at column 27, line 42.

Furthermore, the inspection in Kunimoto is inspection of a finally-formed coating and not inspection of a donor support prior to coating. Applicant fails to see how Kunimoto *et al* is relevant to claim 4, or how it can reasonably be combined with Wolk or any of the other references.

8. Summary

Claims 1 and 2 would not have been obvious under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Gaudiana *et al.* (US 6,624,839) and Jackson *et al.* (US 6,720,572). The combination of references fails to suggest a method of making an OLED in which a donor element transfers an unpatterned emissive layer as recited in claim 1. Wolk only teaches imagewise transfer, and even the addition of Jackson *et al.* to Wolk would not have suggested transfer of an unpatterned emissive layer as presently claimed. In particular, Wolk does not disclose or suggest forming an unpatterned light-emitting layer that is capable of emitting white light. Moreover, the proposed modification of Wolk based on Jackson *et al.* impermissibly changes the principle of operation of Wolk.

The addition of Gaudiana *et al.* does not overcome the failure of Wolk and Jackson *et al.* to suggest transfer of an unpatterned emissive layer as presently claimed. Nor is any motivation to combine the references as proposed to be found, either explicitly or implicitly, in the cited references. Finally, the present invention provides numerous advantages not suggested by the art of record.

Claim 2 is separately patentable over claim 1. Wolk discloses selective transfer from a donor element that has a contiguous layer of material that is selectively transferred to a receptor in imagewise fashion. Claim 2 relates to nonselective (“unpatterned”) transfer from a donor element that has discontinuous patches of material that is nonselectively transferred to a receptor to produce an unpatterned light-emitting layer. Thus, no *prima facie* case of obviousness exists with respect to claim 2.

Claim 4 would not have been obvious under 35 USC 103(a) based on Wolk (US 6,194,119) in view of Kunimoto *et al.* (US 6,258,954) and Jackson *et al.* (US 6,720,572). The combination of references fails to suggest a method of making an

OLED in which a donor element is inspected prior to using it to transfer an unpatterned emissive layer as claimed in claim 4.

9. Conclusion

For the above reasons, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of Claims 1, 2 and 4.

Respectfully submitted,



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Enclosures

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

APPENDIX I - CLAIMS ON APPEAL

1. A method of making an OLED device comprising:
 - a) forming a color filter array over a first surface of a substrate;
 - b) forming an anode over the first or a second surface of the substrate and a hole-transporting layer over the anode;
 - c) moving one or more coated donor elements into a transfer position relative to the hole-transporting layer and transferring emissive material from the donor elements onto the hole-transporting layer to form one or more unpatterned light-emitting layer(s) which are capable of emitting white light; and
 - d) forming a cathode over the one or more unpatterned light-emitting layer(s).

2. The method of claim 1 wherein the donor element is a flexible web having a series of coated patches of transferable emissive material which are sequentially moved to the transfer position and heated by radiation to cause material transfer.

4. In a method of manufacturing an OLED device, which emits white light, comprising:

- a) providing a flexible donor support, and transferring to such donor support heat-transferable materials which are capable of forming one or more light emitting layer(s) which produce white light in an OLED device;
- b) inspecting the coated donor support prior to material transfer; and
- c) moving the coated donor support into a transfer position with the OLED device and forming an unpatterned light-emitting layer(s).

APPENDIX II. EVIDENCE APPENDIX

No evidence is submitted with this appeal brief.

APPENDIX III. RELATED PROCEEDINGS APPENDIX

There are no related appeals or interferences known to appellant, the appellant's legal representative, or the assignee which are related to, will directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.